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Muon Propagation in Rock with GEANT4, FLUKA and MUSIC

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Summary

The propagation of muons through rock has been simulated using three different codes: FLUKA, MUSIC and Geant4. Quantities as the survival propagation, the mean energy and the lateral displacement of the muons have been estimated in every case. Dependence of these quantities on the initial muon flux, code parameters and physical process involved will be presented. As a part of the background characterization of the Canfranc Underground Laboratory, results of these simulations have been used to estimate the neutron flux in the new facility.

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Session Classification: Parallel Session 1 (a) - Low Background Experiments

Track Classification: Geant4 Users Conference : Low background